

Data Communication Lab Assignment

Read Carefully:

1. This assignment must be submitted online via VEUS under the component named ‘SUBMISSION’ as a pdf file on or before **28/12/2020 (Monday) 8:00 pm**.
2. The file name must be ‘**Lab Assignment.pdf**’. On the top page of the assignment **name, ID, and section** must be mentioned clearly.
3. The assignment must include: Top Page, Introduction, Work, Necessary Figures, Discussions.

Question (10 points):

First create a word of your choosing using four to eight letters. This project is to show how we can transmit a text message and how we can recover the text message again at receiver.

Message = ‘Word of your choosing’

- a) Generate a function which will convert a text message into binary bit sequence.
- b) Generate binary bit sequence for your text message using the function from (a).
- c) Display the bit sequence from (b) as unipolar digital signal.
- d) Apply BASK on digital signal from (c). Use carrier signal amplitude **1-volt** and **0-volt** for binary bit ‘1’ and binary bit ‘0’ respectively. and for carrier signal frequency use ‘**(C*2+D*3+E*4+F)**’ Hz from your ID (Assume your ID to be AB-CDEFG-H) and phase of carrier signal use **0 degree**.
- e) Add noise signal to your modulated signal and assume that noisy signal is your received signal.
- f) Recover the bit sequence from the received noisy signal.
- g) Generate a function which will convert binary bit sequence into a text message.
- h) Use the function from (g) to recover your text message from recovered bit sequence of (f).